

Appl. No. 09/823,682
Amtd. Dated June 21, 2004
Reply to Office Action of March 26, 2004

REMARKS/ARGUMENTS

Prior to this Amendment, claims 1-19 were pending in the application. Independent claims 1 and 15 are amended to clarify that the second connection endpoint symbol is configured to indicate the existence of multiple connections at a node. Independent claim 14 is amended to clarify that the system includes a processing device for determining the number of connections at a node and a display process for displaying either a first or a second endpoint symbol based on the determined number of connections. The second endpoint symbol comprises a single icon that indicates the number of connections is at least two. Independent claim 19 is likewise amended to clarify that the a connection endpoint symbol is used to indicate the presence of multiple connections at a node and further, that the symbol comprises an icon that does not include a representation of each of the connections, as this would require significant screen space.

Independent claim 16 is amended to include the limitation of dependent claim 17, which is canceled. The method of claim 16 now calls for the displaying of additional information about a connection that includes displaying a number indicating the quantity or number of multiple connections at a node.

Dependent claims 3, 5, 6, and 17 are canceled.

No new matter is added by the claim amendments with support found in the original claims, Figures 1A and 1B, and the specification at page 4, line 1 to page 5, line 3. Claims 1, 2, 4, 7-16, 18, and 19 remain for consideration by the Examiner.

Rejections under 35 U.S.C. § 112

In the March 26, 2004 Office Action, claims 17 and 18 were rejected as being indefinite because of antecedent basis problems. Claim 17 is canceled by this Amendment, and claim 18 is amended to provide proper antecedent basis.

Rejections Under 35 U.S.C. § 102

Additionally, the Office Action rejected claims 1-3, 5, 6, 11-15, and 19 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,229,538 ("McIntyre"). Claims 3, 5, and 6 are canceled. The rejection of the remaining pending claims is respectfully traversed based on the following remarks.

As discussed in Applicants' Background, it is a difficult task to provide a graphical image of a complex network due to limited display area and due to the desire to show a large

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part of a network in a small area. Users often want to know the exact count of connections between two nodes but in the past this has been provided by screen shots of individual nodes or with very cluttered displays.

With this problem in mind, claim 1 is directed to a method for displaying connection information in a network topology. The method comprises obtaining connection information about first and second nodes. If there is a single connection, the method includes displaying a first connection endpoint symbol adjacent the two nodes. If there are multiple connections, the method involves displaying a second connection endpoint symbol adjacent the two nodes. The second symbol "differs from the first connection endpoint symbol and is configured to indicate existence of the multiple connections at the nodes." Hence, the use of differing first and second symbols adjacent nodes in a network display allows space efficient (but user-friendly) display of connection information without requiring that a link be provided to a separate screen or requiring a cluttered display. McIntyre fails to teach the use of first and second symbols as called for in claim 1, and hence, the 102 rejection is unsupported and should be withdrawn.

More particularly, McIntyre is cited in the Office Action, with reference to claim 3, for teaching "graphic symbols that indicate the existence of multiple connections (figs. 13-15)." Applicants agree that McIntyre teaches the use of a plurality of symbols to show the existence of multiple connections, and this can be seen in Figures 13-15 where a symbol or graphic representation is provided for each and every connection of a node (and even for uninstalled connections). As can be appreciated, this requires a separate screen shot or a large portion of a network display to show each connection with a corresponding symbol. Apparently, if there was only one connection, McIntyre still teaches showing a plurality of symbols corresponding to the number of possible connections at a node, with one being connected and the rest being "uninstalled" as shown at element 134. In other words, the displays of Figures 13-15 call for a physical symbol for each and every port of a network device, with a descriptive label providing other information. In practice, this results in a very cluttered display and is impractical for a network topology (unless the displays of Figures 13-15 are shown on a separate screen).

In contrast, claim 1 calls for a first symbol to be used when there is only one connection and a second, differing symbol to be used to indicate the existence of multiple connections. Hence, McIntyre fails to teach each and every element of the method of claim 1,

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and claim 1 is believed in condition for allowance. Claims 2 and 11-13 depend from claim 1 and are believed allowable as depending from an allowable base claim.

Independent claim 14 is directed to a display apparatus with limitations similar to, but in differing form than, claim 1, and claim 14 is believed allowable for the reasons for allowing claim 1. Further, claim 14 calls for a first or a second endpoint symbol to be displayed adjacent a node based on a determined number of connections. The second connection endpoint symbol comprises "a single icon configured to indicate the determined number of connections is at least two." As discussed with reference to claim 1, McIntyre in Figures 13-15 and elsewhere teaches the use of a plurality of symbols to represent a plurality of ports on a device or node. There is no teaching in McIntyre that it would be useful to provide a single icon that indicates there are multiple, existing connections at a node. The use of single icon addresses the problem discussed in Applicants' Background of having a limited amount of screen space to display information and the desire for a clear or uncluttered display. McIntyre was addressing the need for connection information but attempted to solve the problem in another way, i.e., by providing a separate screen or display for a node that shows information for all the device's ports. Hence, McIntyre fails to anticipate the apparatus of claim 14, and the rejection of claim 14 should be withdrawn.

Independent claim 15 is directed to a computer readable medium with limitations similar to claim 1 and is believed allowable for the reasons provided for allowing claim 1.

Independent claim 16 is directed to a method for displaying connection information in a network topology display. Claim 16 differs from claim 1 in that it calls for "displaying additional information about the connection on the display screen" in response to signals from a user input device. Further, the additional information includes "a number indicating the number of connections between the nodes." McIntyre fails to teach displaying a number indicating the number of connections at a node. McIntyre teaches displaying symbols representing each port whether connected or not for a node (see, for example, Figures 13-15). From this display, a user could count the number of connections, but McIntyre fails to teach that a number corresponding to the connections is ever displayed. Hence, claim 16 is believed allowable over McIntyre.

Additionally, in the Office Action, a portion of a Cisco Systems book ("Cisco") was cited against claim 17. The limitations of claim 17 are added to claim 16 in this Amendment,

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and claim 17 is canceled. In Figure 4-12, Cisco teaches displaying a topology submap upon selection of a topology symbol (i.e., the "LightStream" symbol in Figure 4-11), and in the topology submap a "2" is provided adjacent a trunk. However, Cisco fails to teach selecting a connection with a user input device and fails to teach selectively displaying a number of connections between the nodes based on such user selection. Instead, Cisco teaches displaying the number of trunks associated with each displayed line whenever a topology is displayed. A user cannot select the displayed line and then see the number of connections. As a result, Cisco does not teach this feature of claim 16, and claim 16 is allowable over McIntyre considered alone or in combination with Cisco.

Rejections Under 35 U.S.C. § 103

Additionally, the Office Action rejected claim 4 under 35 U.S.C. 103(a) as being unpatentable over McIntyre. Claim 4 is believed allowable as depending from allowable claim 1. Further, the Office Action states that McIntyre does not teach an endpoint symbol that is a two-pronged fork but argues it would be obvious to modify McIntyre's graphic icons to achieve this because a fork may represent "two connections at a node." However, McIntyre teaches away from a single icon used to teach multiple connections at a node because McIntyre consistently teaches displaying a physical representation of a plug for each and every port of a node. McIntyre never teaches using a single icon for two or more connections at a node. Additionally, there is no motivation in McIntyre to modify its teachings to reduce the number of icons it uses to represent ports of a network device.

Additionally, the Office Action rejected claims 7-10, 16, and 17 under 35 U.S.C. 103(a) as being unpatentable over McIntyre in view of Cisco. Claim 17 is canceled. The rejection of remaining claims is respectfully traversed based on the following remarks.

Claims 7-10 depend from claim 1 and are believed allowable as depending from an allowable base claim. Further, Cisco fails to overcome the deficiencies noted for McIntyre with reference to claim 1. Particularly, Cisco fails to teach the use of a second connection endpoint symbol to indicate the existence of multiple connections at a node. Additionally, claims 7-9 are believed allowable over McIntyre and Cisco for the reasons provided for independent claim 16.

Independent claim 16 is allowable over McIntyre and Cisco for the reasons provided with reference to the 102 rejection of claim 16.

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Further, the Office Action rejected claim 18 as being unpatentable over McIntyre in view of U.S. Patent No. 5,995,101 ("Clark"). Claim 18 depends from claim 16 and is believed allowable as depending from an allowable base claim. Further, Clark fails to overcome the deficiencies of McIntyre discussed above with reference to claim 16. Specifically, McIntyre fails to teach displaying additional information in response to user input signals, where the additional information includes a number indicating the number of connections between the nodes. Clark provides no teaching of such additional information and the Office Action fails to provide a specific citation for this teaching. Because each feature of claim 18 and base claim 16 are not identified in the references, a *prima facie* case of obviousness has not been made, and the rejection of claim 18 should be withdrawn.

Conclusions

The additional references cited in the Office Action but not relied upon have been reviewed but are believed to be no more relevant than those relied upon. The pending claims are believed allowable over these references considered individually or in any combination.

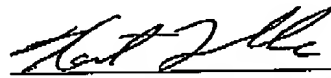
No fee is believed due with this Amendment. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Date

6/21/04



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